

## PUBLIC INFORMATION ON POTASSIUM IODIDE (KI)

### **WHAT IS POTASSIUM IODIDE?**

Potassium iodide is a salt, similar to table salt. Its chemical symbol is KI. It is routinely added to table salt to make it "iodized."

### **WHAT IS THE BENEFIT OF TAKING POTASSIUM IODIDE DURING A RADIOLOGICAL ACCIDENT?**

Radioactive iodine seeks out the thyroid gland. Potassium iodide, if taken in time and at the right dosage, fills the thyroid with harmless iodine so there is no room for radioactive iodine in the thyroid. This could reduce the risk of thyroid cancers and other diseases that might otherwise be caused by exposure to radioactive iodine that could be dispersed in a severe nuclear accident.

### **WHAT IS THE ROLE OF POTASSIUM IODIDE IN RADIOLOGICAL EMERGENCY PREPAREDNESS?**

The purpose of radiological emergency preparedness is to protect people from the effects of radiation exposure in the unlikely event of a nuclear power plant incident. KI only protects one gland--the thyroid--from one substance--radioactive iodine. KI does not protect any other part of the body from radionuclides. Therefore, KI should only be considered in association with sheltering or evacuation, or a combination of sheltering and evacuation. Evacuation is the most effective protective measure in the event of a radiological emergency because it protects the whole body (including the thyroid gland and other organs) from all radionuclides. *The use of potassium iodide should not, in any way, delay or otherwise interfere with evacuation or sheltering.*

### **WILL POTASSIUM IODIDE PROTECT ME FROM OTHER RADIATION?**

Potassium iodide only protects the thyroid gland from internal exposure to radioactive iodine. It will not protect any other organ or the whole body. The doses to the body at which evacuation is recommended are set at approximately 2 to 3 times the dose a person would receive from natural background exposure over the course of the year. Natural background radiation (depending upon where you live) can contribute between 0.36 to 0.60 rem per year. Evacuation is recommended if the whole body dose to the public from the power plant is projected to be 1.0 rem. Use of potassium iodide is recommended only if the dose to the thyroid is expected to be greater than or equal to 5 rem.

### **WHAT ARE THE RECOMMENDED DOSAGES OF POTASSIUM IODIDE?**

The Food and Drug Administration (FDA) is the Federal agency responsible for recommendations as to the appropriate times to take KI and the dosages for different age groups. The FDA published revised guidelines in December 2001. The labeling on KI packaging may not yet reflect these new dosage guidelines. However, either dosage is safe and effective for thyroid protection. Neonates, nursing mothers, and pregnant women should only take one dose of potassium iodide, unless otherwise directed by their doctors.

The FDA's recommended doses are:

C Neonates (birth to 1 month)	16 mg
C Children (1 month to 3 years)	32 mg
C Children/adolescents (3 years 18 years)*	65 mg

- C Adults under 40 130 mg
- C Adults over 40 (if doses greater than 500 rem) 130 mg

Adolescents approaching adult weight (70 kg) should take the adult dose

**WHY DOES THE NUCLEAR REGULATORY COMMISSION (NRC) ONLY REQUIRE STATES TO CONSIDER THE USE OF POTASSIUM IODIDE FOR THE GENERAL PUBLIC?**

The NRC will not require use of potassium iodide by the general public because the NRC believes that current emergency planning and protective measures--evacuation and sheltering--are adequate and protective of public health and safety. However, the NRC recognizes the supplemental value of potassium iodide and the right of the States to decide the appropriateness of the use of potassium iodide by its citizens under specific local. Upon request from a State with population within the 10 mile Emergency Planning Zone (EPZ) of a nuclear power plant, the NRC will supply two tablets of potassium iodide for each individual within the 10 mile EPZ.

**DO TWO DOSES OF POTASSIUM IODIDE OFFER ENOUGH PROTECTION?**

The tablets are to be used, if necessary, to supplement evacuation or sheltering. After individuals have evacuated the area, then they will no longer be exposed to significant quantities of radionuclides. Most (80% to 90%) of the thyroid dose received by children affected by the Chernobyl Nuclear Power Plant accident was because the children ate contaminated foods and drank contaminated milk over a period of many days. In the United States, we have measures in place to stop potentially contaminated foods and milk from reaching the consumer.

**HOW WILL I GET THE KI FROM MY STATE?**

The appropriate State officials will notify you whether KI will be stockpiled or distributed to you.

**CAN INDIVIDUAL MEMBERS OF THE PUBLIC OBTAIN POTASSIUM IODIDE?**

The FDA has approved potassium iodide as an over-the-counter medication. *As with any medication, individuals should check with their doctor or pharmacist before using it, to be sure it is safe for them and family members.*

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